XI

THE IRAQ—MEDITERRANEAN PIPE LINE

THE discovery on October 14th, 1927, of one of the most important oilfields in the world in the Kirkuk area of Iraq one hundred and thirty miles north of the city of Baghdad was an event of the first magnitude. It was destined to prove a most formidable competitor to the great Soviet oilfields and resulted in the inauguration of what was to prove one of the greatest engineering feats of all time. Without exaggeration it may be described as the EIGHTH wonder of the world. As the route taken by Imperial Airways from Gaza to Baghdad follows for many hundreds of miles the course of the pipe line along which the army of artisans could be seen at work in the desert in the various stages of its development, a detailed description of this tremendous undertaking may be advisable.

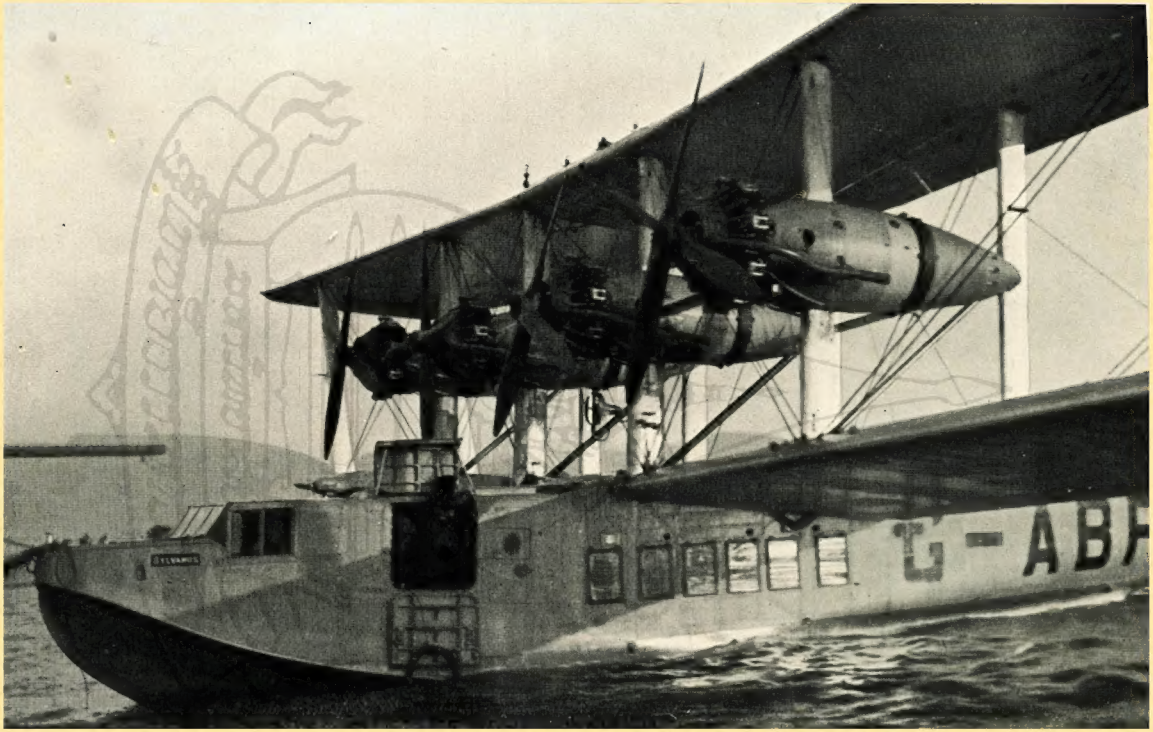
The pipe line passes through no less than five countries, Iraq, Syria, Lebanon, Palestine and Trans-Jordania, and runs across three rivers of the Bible, the Tigris, Euphrates and the Jordan, covering a total distance of over one thousand miles. The shortage of water was one of the greatest problems to be overcome, and this necessitated the sinking of over a hundred wells from which the water was conveyed in motor lorries to the thousands of operatives in the desert. It has taken three years to build and the pipes will annually convey no less than four million tons of oil to the two ports of Haifa and Tripoli. No less

than 125,000 tons of pipes, of respectively ten and twelve inches in diameter are required. Light cars and trucks in addition to the heavy transport vehicles covered no less than five million miles of desert and mountain road while the Company's fleet of airplanes travelled three hundred thousand miles in the conveyance of workmen and passengers to the most difficult portions of the route before road transport was available. No less than four countries were responsible for the financing of the undertaking, and Britain, France, Holland and America each possess a holding of one quarter share in the enterprise. It was agreed that the French should have their own pipe line debouching at the Port of Tripoli in Syria, and the British should have their pipe line debouching at Haifa in Palestine. The two pipe lines would run together from Kirkuk through the desert crossing the river Tigris and the Euphrates, and separating at the important junction of Haditha to go their respective ways.

Huge canvas cities sprang up in the desert, and no sooner had the tents materialized than the first batch of huge steel pipes were carted into the wilderness by motor trucks. Power shovels able to deal with boulders up to a foot in diameter dug a channel across the desert three feet deep, twenty-six inches wide, at the rate of a mile a day. This however was only possible for half the distance. The remainder had to be blasted out of the rock, a hundred miles or more of which consisted of Black Basalt, a tremendous undertaking. The long pipe line welded together had to be safeguarded against corrosion. Each section was smeared with asphalt pitch and then carefully swathed in brown paper, twelve hundred miles of continuous paper. Actually over five thousand miles of brown paper, eighteen inches in width were used in the wrapping

of the pipes. After the pipe layers came the Sudanese gangs, shovelling the earth back into the trench. Through the volcanic areas, up to the mountains, across rivers and deep through the desert gorges, the pipe line eventually emerges on the shores of the Mediterranean, where through immense harbour cables the oil is finally pumped on board the liners which tranship the oil to all parts of the world. The completion of this great undertaking is a striking tribute to the foresight, patience and determination of the engineers who were entrusted with the heavy responsibility of bringing to a triumphant conclusion one of the greatest engineering feats of mankind.

[Face page 70



[*By courtesy of Imperial Airways*

THE BOW, HATCH, CABIN AND ENGINES OF THE SYLVANUS SEAPLANE

XII

FROM BAGHDAD TO BASRA

DURING my week's sojourn in Baghdad, I had the good fortune to meet the Aunt of the Assyrian patriarch Mar Shimun, who had recently been deported from Iraq to Cyprus by the Government, and it was on the arrival of Lady Sharma at Baghdad from Mosul by motor car through the desert, that I was introduced to this distinguished lady. Travel stained, weary and tired out, the occupants of the convoy of several cars, loaded up with every description of house-hold effects, amongst which sat or reclined numerous members of her family and acquaintances, arrived at ten o'clock one morning, and were hospitably received by the Y.M.C.A. whose capacious Baghdad headquarters were taxed to their utmost to accommodate the wanderers from their homes amongst the mountains *en route* to a foreign land, where amongst strangers they would, if possible, make their future home. I had heard rumours in the city of strange happenings to these dwellers in the mountains of the north, of savage attacks by irregular troops of the Iraq army, of many deaths on both sides in the guerilla warfare which has sadly reduced the number of the fighting men of the Assyrians. But through it all was the fear of reprisals, did they speak too freely of what had happened during the past weeks and months, when it became apparent that the determination of the Iraq Government was to effectually prevent the Assyrians from settling down once again

in Mesopotamia as a united nation. Had not their native land amongst the hills been given to others, and thus dispossessed, driven away to seek their fortunes as best they could somewhere outside the boundaries of the land which had given them birth.

Mar Shimun the Assyrian patriarch held a dual position, as being both the Head of the Assyrian Government, and also its Spiritual Leader, and as far as I could make out it was his desire to retain the spiritual leadership of his people, that the Iraq Government desired to make an end. For this reason his banishment had been effected, and a short time before my arrival in Baghdad he had been deported to the island of Cyprus, where for the time being he was waiting developments, and the arrival of Lady Sharma.

One and all seemed genuinely distressed at what they termed the cruel treatment by the Iraq Government, who officially denied their responsibility for the alleged slaughter of the Assyrians, but certainly the tales told me were very convincing, and chapter and verse were quoted of the names and description of those who in their opinion had laid down their lives for their country. I took the opportunity of motoring out in the desert where in camp hundreds of the Assyrian women and children—many of these latter having babes at the breast—were being maintained until such time as a new home could be found for these wanderers of the desert, and one looked upon the sad faces of the women, wondering as to what their future destiny was to be and where they would eventually find an asylum of refuge, where their lives could once more be normal, and with the help of their countrymen, try and forget the tribulations of the past. Many of the women I was informed were widows whose husbands had

only recently been shot down by the Iraq irregulars with whom they had been in conflict. What they could not understand, was the fact that having through the war fought the Turks as allies of the British, the British Government had not secured their future, and I noticed a certain resentment at receiving what they considered was not the treatment they deserved. I promised that on my return to England I would bring to the notice of the Foreign Office the plight of this remnant of the Assyrian nation. (Needless to say I fulfilled my promise directly I set foot in London, on my return.) The next morning, I was early astir and ready for my journey southward when the motor called for me at the hotel, and accompanied by four other travellers we were soon aloft, with the city of the Kaliphs fading in the distance.

For some time we followed the course of the Tigris, crossing and recrossing the river as it wound its way sinuously through the desert, where on each bank were little clusters of flat-topped mud huts, and straggling about the desert could be made out great flocks of sheep and goats, with their shepherds, the Bedouin Arabs, nomadic tribes with no settled home, but almost continuously on the move and taking advantage of the scanty pasturage for their flocks, which, in consequence of its scarcity, made movement a necessity. Great black tents pitched in the desert showed where for a few days they had found a temporary home, but not for long if the condition of the flocks was to be maintained, the tents must be folded and another pasturage discovered at the earliest opportunity.

And now we pass almost directly over that remnant of a once important centre in times long past, the Arch of Ctesipon, which sends the mind back into the long centuries when Mesopotamia

was a land of milk and honey, where the great rivers of the Euphrates and Tigris held between their courses the great centres of the world's civilization. These are now but memories of the greatness which has passed away for ever, and the silent trekking of the Arab tending his flocks, over the wastes which once thrilled with pulsing life and prosperity, but now wide dreary wastes of sand, is all that is visible where now the archæologist thrusts his spade seeking for remnants of an almost forgotten civilization. Away to the east, distant about fifteen miles, but not visible in the mists, lies the town of Kut, ever memorable for the siege where Townshend, after a heroic resistance, was forced to capitulate, and later the beleagured garrison commenced their painful march to Constantinople, but of which large numbers found a grave beneath the sand before many miles had been accomplished. Ruminating on the events in the great war we speed along at somewhere about 110 miles an hour, and gradually the sand gives place to marshy ground, at which my companions expressed their surprise, as one naturally associates dry sand with the desert, but for mile after mile the whole surface is covered with long, marshy grass, interspersed with pools of water, on which a forced landing would be a matter almost impossible of accomplishment with safety. By now we have almost arrived at our destination, for a gradual descent brings us down at the outskirts of the village of Shaibah, seventeen miles from Basra, and here we alight for the night to be accommodated in the huts on the aerodrome, where dinner is served in the rest house, and an early retirement is made, so as to be ready for an early start on the following morning.

XIII

FROM BASRA TO BAHREIN

We were early astir the next morning, and after light refreshments, were soon aboard, and by the aid of flares rose without difficulty from the landing ground and headed due south for the town of Koweit, a walled city just across the border and only seventy-five miles distant from Basra. We flew westwards of the Shatt el Arab, in fact it was not visible the whole way, and after about three-quarters of an hour we were circling over the high mud wall of Koweit, and shortly descended in the desert south of the city, some little distance from its boundaries. The district is governed by the Sheik of Koweit, who in the year 1922 built the wall round the city as a protection from his adversary, Ibn Saud, the wall being no less than eleven miles in circumference. A swarm of Arabs quickly surrounded the plane, tugging along a portable petrol tank from which to replenish the tanks in the wings of the plane.

While this very necessary operation is being performed I will take the opportunity of describing the deviation of the Imperial Airways route along the twelve hundred miles coastline of the Persian Gulf.

For a considerable period an agreement existed between the Persian and British Governments for calling places on this section of the air route to India, to be made on the Persian coast at Bushire, Lingeh and Jask. On the termination of the existing agreement, certain suggestions were made by the Persian Government, involving, I

understand, the calling at inland towns in Persia, including Teheran, and it was found, on investigations being made, that this alteration would necessitate a longer time being taken in traversing this portion of the route. In addition the extra numbers of passengers and freight would in no wise warrant this course being pursued, and therefore it was not surprising that the agreement lapsed, and it became necessary to make arrangements for an alternative route. The opposite coast of the Persian Gulf was naturally the only alternative, and although this meant an additional mileage of nearly two hundred miles being flown, negotiations were entered into with the authorities governing the western coast of the Gulf, and with the Sheik of Sharjah, where a rest house and aerodrome has been established in the form of a fort of stone, surrounded by barbed wire, in addition to which as an added security is an armed guard who, if occasion arises, can defend the fort against any roving bands of Bedouin Arabs who are still to be found in this part of the world, and locally known as the Pirate Coast. From the northern extremity of the Persian Gulf, the route for the whole length of the Gulf is flown over non-British territory, and no time was to be wasted in the establishment of aerodromes and rest houses, petrol stores, and the inevitable ground equipment at Koweit, Bahrein and Sharjah. The chief and perhaps only disadvantage in the new route is the length of the oversea stage from Sharjah to Gwadar, in Baluchistan, a distance of 440 miles, which, without reducing the load, is asking rather more than can be expected of the Hannibal type of plane, which is used on this portion of the Cairo to Singapore journey. It is, I believe, contemplated to establish a landing ground at Jiwani, a town about forty miles to the

[Face page 76

THE PORT OF KOWEIT FROM THE AIR [*By courtesy of "The Times"*

west of Gwadar, but still in Baluchistan, and under British control, and this will make all the difference in negotiating with ease this portion of the route. But to return to the plane, now filled up with oil and petrol, with the four engines merrily revolving, we climb on board, the wedges from under the wheels are removed by the two Arabs crouching low in order to avoid the exhaust, and amid a cloud of dust which for a moment obliterates the crowd of curious onlookers, in their many coloured costumes, we rise above the desert, and continue our flight at about 1,500 feet, along the coast of Arabia. Looking downward, my attention is arrested by the beautifully coloured lagoons which are to be found for the major portion of the way, and the different shades of green, blue and other colours which vary I suppose according to the varying depth of the water make this part of the journey of absorbing interest. Although of course our plane is a land plane, we are taking a course about a quarter of a mile from the coast, this I am told being to avoid the bumps which are generally to be found over land in these regions, the air directly above the sea being considered to be far less bumpy, and indeed I found this to be the case, for during the whole journey down the gulf the course of the plane remained remarkably steady, the air being almost entirely free from either upward or downward currents, which formerly used to be described as air pockets, the planes giving sudden leaps upward or downwards as the case might be, but now recognised as currents of air being met with which naturally gave the impression of a "pocket" or vacuum, but which as a matter of fact was a misnomer. The lagoons to which I have referred became more interesting as we progressed, as now were to be seen some exquisite turquoise effects, which

under the rays of the sun, sparkled and shone beneath us, making a picture which was unique, and which to me was something entirely new, while directly under our keel far below the water was clear as crystal, enabling the bottom to be seen without effort, with here and there a dark form darting beneath the surface betokening a big fish seeking his dinner amongst the smaller fry of his species.

The distance from Koweit to Bahrein is some 260 miles, and a choice of landing ground had to be made between the two islands of Manameh, and Muharraq. Manameh contains the town of Bahrein, and the business concerns and residences, but its aerodrome is small and is too close to the town to be free from obstacles which makes it undesirable and this has no doubt decided Imperial Airways to select the island of Muharraq, which is a fine flat sandy plain, but which in times of rough weather is subject to incursions of the sea, which leaves the sand soft and which would perhaps present a difficulty were a heavily loaded plane to attempt to rise under such conditions. I understand, however, that up to now no such happening has been experienced. There is at present no regular means of communication between the two islands. Some years ago a causeway was commenced, but for some reason unexplained was not completed, so now should the traveller be desirous of visiting the town a motor boat must be requisitioned for the purpose.

BAHREIN

Bahrein, the Isle of Pearls, is surrounded on all sides by coral reefs which make the approach of ships a dangerous proceeding, but for thousands

of years has been celebrated as the place from where the finest pearls in the world are obtained.

The pearl industry provides employment for no less than seventy thousand fishermen. No less than two hundred and seventeen banks are worked by the pearl divers, and over twenty varieties of pearls are to be found. A short description as to the methods adopted by these toilers of the deep may not be out of place. The divers, working at lightning speed, disappear beneath the surface of the sea, lowering themselves by a large stone made fast to the gunwale of the boat, enabling them to reach the sea bed much faster than by diving in the usual way, and then with a basket and knife remain under water for as long as a minute and a half. There are three seasons of fishing, the Ghaus-al-Kabir, when the best pearls are obtained, the second, known as Radda, while the third consists of wading in the shallows—the cold weather season—when only pearls of inferior quality are found, and of little commercial value. Doubtless it is the latter which are offered to air-plane passengers during the half hour's stay for refuelling on the island. The pearl industry is in the hands of wealthy merchants, who control the markets of Bahrein and Lingeh and Kair, on the Persian coast, from whence the pearls are sent to Bombay to be sorted and classified. Bahrein has had a chequered career. It has been the scene of fighting, during which it has been in the hands of the Portuguese, Persians, Omanis and Attoobess, until finally Britain took it over and placed it under the supervision of Sheik-Isa-Ibu-Ali, the head of the Khaleefah family, under which it remains at the present time.

Including the surrounding islands the population is about one hundred thousand, and is easily the most prosperous town in the Persian Gulf.

Only a short stay was made here, just sufficient to replenish the petrol tanks and collect and deliver the mails, and a small hut sufficed to attend to our modest requirements, so we were soon away once more heading for the open sea, *en route* to Sharjah, 340 miles away. Shortly after losing sight of Bahrein we had a most unique experience, thrilling and absorbing, nothing less than a drama of the sea, which I will reserve for the next chapter.

[Face page 80

AN IMPERIAL AIRWAYS MACHINE AT SHARJAH
With a group of Arabs armed with Arab rifles

["*The Times*" *photograph*

XIV

FROM BAHREIN TO SHARJAH

FLYING at a height of about a thousand feet the flat sandy island of Bahrein was soon lost sight of, and we were now heading over the trackless wastes of the gulf direct for Sharjah, some 340 miles distant. But it was not to be an uneventful voyage, for as we journeyed southward a fleet of what appeared to be fishing vessels to the number of perhaps ten or a dozen, were to be seen with sails furled evidently busily engaged in gathering the harvest of the deep. Rapidly nearing the fleet it was soon evident that our course would bring us almost immediately above them, word was passed along by the wireless operator that we had sighted the pearl fishing fleet, and so it proved as we approached more closely. Hung out from amidships on both sides were huge poles from which were suspended the lines on which the divers descended weighted with heavy stones in order to effect a quick descent, collect the oysters within reach, and then with almost bursting lungs give the signal for hoisting, and on reaching the surface the basket is emptied and the diver is again ready for another descent. He can remain below for as long as a minute or a minute and a half. The oysters are found at varying depths, which average from eight to fourteen fathoms, so it may be imagined what a tremendous strain it must be on the diver to descend a distance of eighty feet. The greatest interest in the operations was manifest by all the passengers as we peered down into the depths of the crystal clear water. A sudden exclamation arrested our attention. "Look there!"

one of the passengers exclaimed, "are those not sharks?" Almost directly beneath the plane were to be seen seven great forms, swimming in parallel lines apparently some twenty feet below the surface, heading directly for one of the pearl fishing vessels, from which two divers were at that moment beneath the waves, although now being raised to the surface. No one spoke, were we to be the witnesses of a short and bloody drama beneath the surface of the ocean? Only a matter of some twenty or more yards divided the sharks from their prey, which seemed by some uncanny instinct to visualise the dusky natives, so often their victims. Would the divers realise their peril before it was too late? Was anyone on watch on board to warn them? These and other questions passed through our minds as we swept along with a following wind, and thus not permitted to witness the final scene of this subterranean drama, which for centuries must have been many times repeated. It is the price to be paid for the recovery of the ocean's treasures, the cost of human life for personal adornment.

The sun was setting as we neared Sharjah, where we made a landing just outside a huge stone square-built fort, surrounded by barbed wire, and as we finally came to rest the Sheikh's bodyguard, armed with formidable looking rifles of great length, stood at attention as we made our way into the fort in which we were to pass the night. A large courtyard occupies the interior, on all four sides of which are built the bedrooms, offices, engine house, quarters for the staff and other buildings, which as darkness fell were made secure against the possible visits of Bedouin Arabs, by the closing and bolting of the great double doors which guarded the entrance to the fort. Dinner over, we sought our rooms, for an early start was to be made at 4.30 the following morning, in order

to accomplish the long flight along the southern coasts of Persia and Baluchistan to Karachi.

FROM SHARJAH TO GWADAR

It was quite dark of course when the Indian servant knocked at my door at the early hour of 3.45 a.m. and I confess I would have preferred resting where I was until the sun made his appearance above the horizon, but with a journey of 740 miles in front of us an early start was advisable, so making the best of matters I dressed and hurried out into the darkness where the whirl of the four propellers made themselves heard. When all were aboard the skids were removed, and running parallel with the paraffin flares which cast a weird, unearthly light across the sandy desert, we were soon in full flight towards the mountains of the Oman peninsula. Looking outside not a thing was to be seen, it was as if looking into the recesses of a long tunnel with no outlet, and realising that the mountain range directly ahead and not so far distant rose to a height of five thousand feet or thereabouts, one experienced a desire for the sunrise, so as to make sure we were at a sufficient height to safely negotiate the mountains. Our curiosity, however, was not to be gratified, for long before the sun made its appearance, we were able to distinguish between drifting clouds of vapour, dark forms at no great distance which we were informed were the mountain peaks, amongst which we were making our way across the peninsula. Dawn was just breaking as we emerged over the entrance to the Persian Gulf heading direct for Jask, on the extremity of the southern Persian coast, which gradually loomed into view, at the end of a narrow neck of sandy land, with its aerodrome clear and distinct adjoining

the shore, which at our elevation of five thousand feet seemed almost too small to make a safe landing. But aerodromes have a curious knack of expansion as one descends to mother earth, and no doubt this one also was sufficiently large for its purpose. As British planes are not allowed to fly over Persian territory we travelled at a distance of about a couple of miles from the barren, inhospitable coast, and the range of mountains fringing the coast gave the impression that here we were viewing one of the most desolate spots on the earth's surface. As we journeyed on we approached closer to the land and were able to get a more intimate view of the construction of the mountains which, owing no doubt to the soft material of the rocks, had been weathered into fantastic shapes, with innumerable sharp pinnacles, and battlements reminding one of ruined castles of long ago, still raising their dismantled turrets in the air, but from which the glory had long departed. It is not surprising to learn that these ranges are aptly called the Mountains of the Moon. Shortly before nine o'clock we were approaching the boundary between Persia and Baluchistan and turning inland we landed on the vast natural desert aerodrome of Gwadar, about three miles east of the Persian frontier. Here a stop of about three quarters of an hour was made for refuelling and to enjoy a cup of coffee and a biscuit, and here we dropped one of our passengers who was to continue his journey into the interior on camel back, and at a little distance away I noticed two huge camels, slowly eating their breakfasts, with a look of intense boredom and superiority on their features. I always think that the camel, for some reason or other, looks down with superciliousness on the rest of creation, or so it always appears to me.

CATHEDRAL ROCK
Jabal-i-Mehdi, near Gwadar (on coast of Baluchistan)

[Courtesy of "The Times"

[Face page 84

Amongst a cloud of desert dust raised by our rapidly revolving propellers we were circling the aerodrome, and my attention was drawn to a most curiously-shaped hill, only a short distance from the landing ground. It is called Cathedral Rock, from its striking resemblance to a Gothic cathedral, and is, I think, the most striking object of interest on the whole journey.

Flying quite close, the pilot doing this to give us the benefit of a close inspection, it would appear at first glance that human hands alone had been responsible, and certainly had left a landmark in the lofty minarets, pinnacles, spires, and turrets towering into the sky, as if sculptured by some master hand, and we looked back with regret as it disappeared in the distance, and marvelled at the wonders of nature's handiwork. The journey from Gwadar to Karachi, a distance of some three hundred miles, was uneventful, being all across the ocean at a distance of approximately ten miles, and we spiralled down to a lower elevation, watching with interest the symmetrical design of the town and harbour glistening in the sunshine. Leaving the coast we made straight for Drigh Aerodrome some eight miles from the town, and swooping over the great airship shed, ready for the housing of the R. 101 on its maiden trip but which unfortunately ended its career in Northern France, we made a perfect landing and drew up close to the hangars, and were surrounded by a tribe of Indians who received the mails and luggage, which were conveyed to the Customs House. Our passports were examined, and we were aboard a taxi *en route* for the city, where, according to arrangements, I was to spend a week in which to transact my business, as the next port of call, and which marked the end of the first stage of my aerial trip to India.

XV

MY LANDING IN INDIA AND JOURNEY FROM KARACHI TO JODHPUR AND FROM THERE ON TO DELHI

My descent from the skies caused, quite a ripple of excitement amongst my customers in Karachi, for being the first commercial traveller to visit them by air, it was considered an event of first class importance.

In making the journey by air to the East my intention was, of course, not simply to travel by the direct route, and catch the connecting plane at each stage of the route, but to break my journey at all important centres, spending a week at each city, then travelling by the following week's plane after transacting my business. By this means it was possible to make a very considerable saving of time compared with the alternative routes of train and steamer. My arrival was expected, the cables announcing my time of arrival, so it was not surprising that hardly had I registered my arrival at the hotel and was in the midst of unpacking, when a knock at my bedroom door revealed the hotel boy with a message that several sahibs were anxious to see me, and soon I was endeavouring to satisfy the curiosity of three newspaper reporters in the relation of my experiences of my trip from London to Karachi. This completed, they disappeared to their respective offices, and after enjoying a well cooked dinner I was not long before I retired to rest and pleased at the reflection that on the morrow I could indulge in an extra hour before

[Face page 86

KARACHI

[*By courtesy of Imperial Airways*

rising, as the Indian shopkeeper does not expect either travellers or customers before ten a.m., so that there was no particular hurry to be astir on that account.

I spent a busy week in Karachi, the time passing very quickly, and I was packing up my suitcase as the motor-car arrived on the afternoon of my departure, and after a drive of about eight miles to the Drigh Aerodrome, I was introduced to my fellow passengers, and we were shortly circling above the airship hangar in the fast, four-engined monoplane which was to convey me to the first stopping place, the picturesque city of Jodhpur, some 387 miles distant.

For the first fifty miles we travelled at about 1,000 feet across broken country, interspersed with nullahs or dried up water-courses, with nothing particular to engage one's attention as we swept over the trackless waste of the desert, but in the far distance could be seen the River Indus slowly making its way over the plains, and about five miles to the northward of our course could be seen the city of Hyderabad. As we travelled eastward the landscape became more interesting as we sighted the irrigation canals which stretched at interminable length, which are connected with the great work known as the Sukkur Barrage, which will bring into cultivation vast tracts of territory, converting what for all time have been nothing better than waterless deserts, into fertile fields yielding excellent crops, and which territory in the near future will support thousands upon thousands of agriculturists, bringing prosperity to a land where only the prowling jackal in the past had eked out a miserable existence.

Later we passed the salt pits, where a year or so earlier Mahatma Gandhi had led his followers on the pilgrimage for the purpose of extracting salt

in defiance of the Excise laws, salt, of course, being a Government monopoly. The sun was just setting as we sighted the picturesque city of Jodhpur, with the fort on the hill and the white houses clustering beneath it, and made a perfect landing on the small but well-equipped aerodrome which has been laid out by the Maharajah of Jodhpur, and also catered for his aerial visitors by the erection of the State Guest House, the last word in comfort, and built regardless of expense, then nearing completion by the addition of a new wing to accommodate the ever-increasing number of aerial visitors to his capital. We were sorry to leave this delightful place, but an early start was necessary at 4.30 a.m. if the long journey to Calcutta was to be completed by 5.30 p.m., so, while quite dark, guided by the paraffin flares on the aerodrome, we were aloft flying at about 2,000 feet, *en route* for Delhi, a distance of 312 miles from Jodhpur. Hilly country was encountered when the sunrise enabled the passengers to scan the countryside, casting dark shadows among the valleys as we swept overhead, when, about 8.30, the crumbling ruins of temples and mausoleums of dynasties long since passed away, announced our arrival at the new capital of India. All round were vast stretches of flooded land owing to the heavy monsoon, and while circling over the aerodrome wireless signals informed the pilot that the civil landing ground was not available, being several inches under water, necessitating the use of the R.A.F. Aerodrome, where we came to earth, and did full justice to the breakfast prepared in the Rest House nearby.

[Face page 88

[By courtesy of "The Times"; photo Infra Red process

NEAR ALIGARH ON THE JOURNEY FROM DELHI TO CAWNPORE

The Ganges appears as a dark line in the centre, and at a distance of 200 miles the peaks of the Himalayas, show clearly in the background.

XVI

FROM DELHI TO CAWNPORE AND ON TO ALLAHABAD

As we had still a long trip before us, no time was lost in making a start for Cawnpore, and, once more aloft, we had a magnificent view of the whole panorama of both Old and New Delhi, its white buildings glistening in the bright sunlight, while further afield were to be seen the old crumbling tombs of the ancient cities of Delhi, now almost obliterated by the hand of time, but still furnishing evidence of the stately edifices of the past, and the undoubted magnificence of the times when richly caparisoned elephants had made their deliberate and dignified appearance in the busy streets, and a pang of regret was felt at the silent and deserted country of the present, as compared with the grandeur of its former existence. The River Jumna, which we repeatedly crossed, as, like some gigantic snake, it wound itself through the countryside had overflowed its banks owing to the heavy monsoon rains, and great expanses of low-lying land were covered with lakes of considerable size, and which were to be observed on both sides of the river. As we progressed the Jumna ceased its windings and flowed in a more straight course to Cawnpore, and for miles we journeyed alongside parallel to its course, until the aerodrome, two miles from the city of Cawnpore, was sighted and we dropped two passengers, picking up two others who had booked their seats for Allahabad. We had completed the 250 mile trip from Delhi to

Cawnpore in just under two hours, this excellent time made possible by a following wind practically all the way. Only ten minutes were necessary to set down and pick up the passengers and mails, and again we were taxi-ing across the open spaces of the aerodrome, which is one of the most extensive in India. From Cawnpore to Allahabad was only a matter of some 112 miles, a mere hop skip and a jump, so to speak, for a fast plane like the saucy "Arethusa," and only fifty-five minutes had elapsed when we neared one of the most interesting places to be found in India. At Allahabad the two great rivers of the Ganges and the Jumna converge on either side of a high promontory on which is built the imposing fort, which stands like a sentinel guarding the two streams as the waters mingle at the foot of the immense rock on which the fort is built. To this spot, reputed to be the holiest in India to the Hindus, a pilgrimage is made every eleven years, pilgrims coming from all parts of the country by every possible means of transport, train, motor-car, tonga, bullock cart and river. It is computed that no less than one million pilgrims immerse themselves in the holy waters, to their evident satisfaction. Many of them never return to their homes, for accident by the way, disease and death by drowning, all take their toll of human life from the myriads of worshippers to this holy place. An excellent lunch awaited us at the Rest House, and here we left our two passengers, leaving me as the only occupant of the plane in addition to the crew, to travel the last stage of the 1,200 miles separating Jodhpur from Calcutta, being the longest trip so far during the journey from Croydon. Flying at an altitude of 5,000 feet we soon after sighted the lofty minarets of the temple of Benares, then, leaving the River Ganges on the

north-east, we cross the River Sone, one of the broadest streams to be found in India, and at the point of our crossing would be at the very least upwards of a mile broad. The railway bridge is a prominent landmark, and is the longest bridge in the country. Another place of interest was the town of Sasuram, with its temple standing in the centre of a large tank, or pool, and again at this place extensive floods were to be seen on every side, in some places extending to the edge of the railway line, which for many miles we flew alongside until the well known town of Gaya loomed in the distance. Here is another landing ground, but it is not utilized during the monsoon, owing to its low-lying position, and swampy nature, making it a matter of some difficulty for a heavily-laden plane to make an ascent. The country now changes in its character, into broken hilly ground, interspersed with numerous watercourses, and one of the incidents of this part of the trip was the passing, at 5,500 feet, of the holy hill of Minna Chat, with a Hindu temple built on its summit, a most picturesque sight, at a height of about 4,500 feet. The priests must have a strong constitution to ascend the precipitous path leading from the base to the summit. The name of the temple I believe is Parasnath. Soon after passing this I experienced the most thrilling episode of the entire trip, but this I must leave to another chapter.

XVII

A TRAGEDY IN MID-AIR

THE distance from Allahabad to Calcutta is 480 miles, about a four hours' journey. Being assisted by a favourable wind the 1,600 horse-power "Arethusa," flying at an altitude of nearly 6,000 feet, was quickly winging her way across the flooded countryside. Several passengers had descended at Delhi, Cawnpore and Allahabad, leaving myself the only remaining passenger to complete the journey to its eastern terminus. It had been an uneventful journey; the stops at the various aerodromes had been made with almost monotonous regularity, at some places we were ahead of our schedule, and now, at a little after 4 p.m., the plane was rapidly reaching its destination.

Visibility was perfect, the plains beneath our keel flooded for miles around by the copious monsoon, resembled an inland lake studded with small islets, dotted with clusters of hamlets, farms and elevated land, which rose from the waste of waters. Away to the north and south, where land met sky, could not have been a less distance than a hundred miles. Occasionally we encountered light fleecy clouds through which we drove for a few moments, to emerge later into the glorious sunshine of a perfect day. Far beneath us was to be seen the long, sinuous body of a goods train, labouring along, the engine panting from its exertions as was evidenced by the long stream of white vapour trailing in its wake, emptied from its smokestack. We had been favoured with a brisk following gale

all the way from Karachi, and our ground speed recorded 146 miles per hour, the highest speed I had travelled by air. There was a special fascination as I sat musing alone in the handsome saloon gazing earthward, and comparing with the chart the course of the plane over rivers, lakes, towns and villages, as one succeeded the other in rapid succession. These fast cruisers of the air carry a pilot, an assistant pilot and a wireless operator, all located in the bow of the plane, a door separating the passengers' saloon from the crew.

A few minutes earlier the wireless operator had informed me we should be in Dum Dum, the Calcutta Aerodrome, in about twenty-five minutes, and I suppose I must have dropped off to sleep, lulled by the drone of the rapidly-whirling propellers, when I was suddenly awakened by an appalling crash, for all the world as if a tray of glass, china and electro-plate had crashed to the ground, shaking the plane from stem to stern. Startled for the moment, I sprang to my feet, intending to make my way forward and find out the cause of this unexpected happening, but a sudden leap upward of the plane flung me backward in my chair, and I instinctively grasped the edge of the small table in front of me, wondering what was going to happen next. Glancing out of the side windows, I could see the two propellers, mounted one on either wing, revolving as usual, so it was evident that the damage—if any—must be looked for in the cockpit itself. I was preparing to make another attempt to rise, when there was a sudden slowing of the propellers, the plane made a steep descent, which continued until we had descended about two thousand feet, when the saloon door opened, and the wireless operator emerged, ejaculating as he hurriedly gazed astern as if expecting some injury to the tail, "WE HAVE HIT

A BIRD." He was followed by Captain Prendergast, his left hand wrapped in a handkerchief from which blood was oozing, his shirt, shorts and boots being freely spattered also, and here let me say the knowledge that this fine pilot was in charge robbed the incident of the terror which would otherwise have been present, knowing that, as far as human nature was concerned, a British hand was on the wheel and a safe landing would be made if at all possible. And while the wireless operator was investigating the interior of a first-aid outfit, cleansing the wound and applying the necessary bandages, Captain Prendergast told me what had happened.

"We had just emerged from a small cloud when I sighted a large vulture, perhaps eight or nine feet from wing to wing. I dipped at once in my effort to avoid it, as it was almost upon us, and the bird did the same. Fortunately it missed the port propeller, but could not clear the fuselage, and we met head on at a combined speed of somewhere about two hundred miles an hour. The impact was made immediately forward of the steering wheel, a little to the left, immediately underneath the triplex glass windscreen which cracked like a spider's web, but did not splinter, for which I have probably to thank that I was not blinded. A plate of the duralumin metal covering of the front of the plane was forced inwards, cutting my hand open and forcing back the wheel, which was, of course, the cause of the sudden leap upwards, and then about half the bird's body was forced through the aperture and with its entrails fell on my knees and into the well of the cockpit."

"What would have happened," I interjected, "had the vulture struck the propeller?"

Captain Prendergast shrugged his shoulders.

"Anything, possibly a broken propeller," he replied. Leaving the pilot to make himself as presentable as circumstances permitted I went forward through the corridor to see for myself what had actually happened. As my head emerged through the doorway, the assistant pilot at the starboard wheel, smiled grimly as he indicated the miniature slaughter-house under the pilot's wheel.

It was not a pleasant picture which I beheld. As far as the vulture was concerned, it was practically pulverized, and shreds of its body still adhered to the jagged hole in the front of the plane, where it had made such a sudden and unexpected entrance. In the well of the cockpit, a jumbled mass of flesh, feathers and "innards" gave off a perfume not to be confused with eau de Cologne. It did not invite a more intimate nor prolonged inspection. I endeavoured to press back the plating which had been forced inwards as if a piece of paper; it resisted my efforts, and as I gradually became conscious of the terrible force of impact, I was reminded of the old problem of what would happen if an irresistible force met an immovable body.

What would have been the result had the vulture struck the plane a foot higher and driven the glass screen into the pilot's face I do not like to contemplate.

Fortunately these problems were not in need of solution, we were steadily proceeding towards Calcutta, although at half speed, in case any of the plane's controls had been injured by the collision, and a few minutes afterwards the River Hooghly, with its shipping, came into view, and precisely at five o'clock we descended safely on Dum Dum Aerodrome, right on time, in spite of the experience which in less capable hands, and

a little less good fortune, might have had a very different and more dramatic termination.

For the benefit of air travellers, let me say that the foregoing dramatic events have been chronicled as being an almost unparalleled experience, and which probably can never be repeated, and therefore no prospective air passenger can reasonably expect a repetition of the occurrence. I consider myself most fortunate in having experienced something quite exceptional but which I would not have missed on any account. I understand that had the pilot kept his course and not dived, the impact would not have been possible, as the vulture always dives on its prey, and therefore to have continued a direct course or to have risen would have effectually prevented the collision.

XVIII

CALCUTTA

QUITE a little crowd of business acquaintances greeted me as I stepped on to terra firma, as my journey had been followed with keen interest since the notices in the Press announcing my departure, including a smiling photograph taken by an enterprising cameraman as, with my Indian topee in my hand, I waved good-bye to my friends from the door of the Air Liner "Heracles" on the Croydon Aerodrome. Cameras were quickly in evidence, especially among my Indian friends, who were not slow to appreciate the importance of this practical illustration of the linking up of the business connections between Britain and India, and many were the questions asked as we taxied from Dum Dum to my flat, of the experiences on this commercial trip of 6,000 miles between London and Calcutta the second city in the British Empire.

Calcutta being my headquarters in the East, some weeks were necessary in which to take up anew the threads of my business, to visit my numerous customers, and to make the necessary arrangements for my further flight through Burma, Malaya and a tour by air of the Dutch East Indies. I was fortunate in arriving in Calcutta at the time when the first Air Mail was inaugurated between England and Burma, and the arrival of the "Astrea" in Calcutta with the first batch of letters to be delivered in Rangoon by air very naturally was an event of the first importance in

business circles, and a distinguished assembly welcomed the "Astrea" as, piloted by Commander Prendergast she descended gracefully at the Dum Dum Aerodrome at sunset. At the invitation of the officials of Trans-Continental Airways, the newly-formed Indian company working in co-operation with Imperial Airways, I was privileged to be the first passenger in the "Astrea" in its flight to Rangoon. At this stage it may be of interest to narrate the development of the air routes of which this flight is the culmination.

DEVELOPMENT OF AIR ROUTES

The Imperial Airways was formed in 1924 to combine the four companies then operating, viz:—Handley Page Transport Ltd. The Instone Air Line Ltd., Daimler Airways and the British Marine Navigation Co. Ltd. The air services of the company in that year were London—Paris (with an extension to Basle and Zurich in the summer), London—Cologne, London—Amsterdam—Berlin and Southampton—Guernsey. In December 1926, a weekly service between Cairo and Baghdad and Basra was commenced. In 1928 a new air section was opened between Alexandria and Genoa by flying boats; Genoa—Basle, being a night train connection with the London—Basle air service, which thus had to be maintained all the year round instead of in summer only.

CAIRO—BASRA SERVICE

In 1929 the Cairo—Basra service was extended to Karachi, the air mails being carried from the latter seaport to Delhi by the Delhi Flying Club for the Government of India. In 1931 the first

half—about 3,000 miles of the Cape route between Cairo and Kisumu—was opened as a regular service. At first the Africa and India services were combined between England and Egypt, but means were found later to separate them, and make them independent of each other and at the same time a change of route was made in the Indian service, which, instead of running via Egypt, was moved north to a shorter route via Costelrosso and Galilee. For economic and other reasons as well as because the Italian Government did not wish the air service to enter Italy from France, Genoa was abandoned and the train connections between Basle and Genoa was substituted by one between Paris and Brindisi. By 1932 the complete Cape route was in operation.

KARACHI TO CALCUTTA

Early in 1933 the Trans-Continental Airways was formed for the extension of the air service from Karachi to Calcutta. The route has now been extended to Rangoon and Singapore. So much for the route—now for a résumé of the improvements in the design and machinery of the aeroplanes used in the air service since the formation of Imperial Airways in 1924.

The fleet then consisted of seventeen aircraft of eight different types, with three types of water-cooled engines. Not more than two engines were used in any aircraft, and no plane could maintain flight under all conditions with one engine out of action. Engine failures were not altogether infrequent, leaks in the cooling water system gave incessant trouble, and were largely responsible for the decision to change over to air-cooled engines. As a result of experience gained the Argosy class of aeroplane was evolved. This new type fully

justified all expectations, and set Imperial Airways on the road towards the still larger all-metal multi-engined craft, and all that they mean in safety, comfort, reliability and economy.

THE ATALANTAS

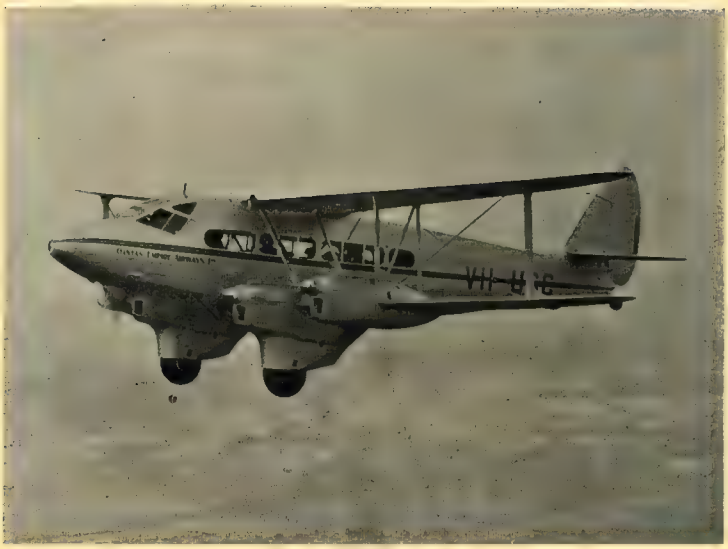
The Atalanta class of Imperial Airways is the newest type. It is built for high speed at high altitudes in Africa and the East. The fleet consists of eight four-engined, high-wing monoplanes, built by Sir W. G. Armstrong-Whitworth Aircraft Ltd., and every detail in its construction is based on the special conditions of climate and service. They are named after the mythological Greek goddesses, Atalanta, Athena, Astrea.

This class of machine was originally intended for operation on the southern section of the African route, and is designed with a special view to be able to take off from and land on aerodromes situated some thousands of feet above sea level. It is lighter and faster than the Hannibal type of air liner, and is fitted with hydraulic brakes which facilitate landing on aerodromes of limited area. This hydraulic braking is most efficient, and on several occasions where, owing to special conditions, landings had to be effected in darkness, with a high wind and on a restricted area, it was remarkable how the speed was reduced without the passengers being put to any inconvenience, as would naturally have been expected.

The first of the series to be completed was the "Atalanta," and this name was adopted as the class name for the type. They are of the high wing unbraced monoplane type, each equipped with four Armstrong-Siddeley Double Mongoose air-cooled engines of 340 horse-power. The specification prepared by Imperial Airways demanded

that they should have a cruising speed of 118 miles —which gives a maximum speed of about 150 miles an hour—with an ability to maintain a height of 9,000 feet with any one of the four engines stopped, while carrying a paying load of 3,000 lbs. The normal range required was 400 miles without refuelling, with an ability to increase this to 660 miles if so required. The Atlantas have to operate at a greater height, and therefore in a more rarefied atmosphere, than do the air liners in use over England and northern Europe, and the aeroplane and her engines were designed to that end. These aeroplanes, which are 14 feet high and 71 feet 6 inches long, with a wing span of 90 feet, are equipped for the carriage of a Captain, First Officer and Wireless Operator and nine passengers. The same care and attention to details which characterizes the general design, has been devoted to the arrangement and decoration of the interior of the passenger cabin, for which many of the decorators in Great Britain are responsible. The chairs are of a special tilting pattern, and the cabin has been made as sound-proof as possible by the insertion of a layer of sound-insulating material between the inner and outer walls. The windows are large and of safety glass. Each aeroplane is fitted with a lavatory. The luggage and freight space is situated between the passenger cabin and the Captain's cockpit, there being a special compartment for the stowage of His Majesty's mails. There is also a specially-designed wireless installation arranged for telephone and telegraphic communication over great distances on either short or medium wave lengths. The cockpit in the nose of the machine has seats for two pilots side by side, the controls being duplicated with the throttle levers in the middle. On the dashboard is a mass of instruments which

at first glance seem rather terrifying to the uninitiated because of their number, but which, I understand, are comparatively simple to a pilot who is experienced in multi-engined machines. In the centre are the engine revolution counters, which, in conjunction with throttle controls, enable the pilot to synchronise the running of the four engines. There is also in the centre an inclinometer. On left and right are an altimeter, a speed indicator, an air-conditioning control for the cabin, a turn indicator and compass. The last two are used when blind flying is necessary. Holt flares are fitted for night landings. On the floor in the centre and behind the throttle control, is a drift indicator which enables positive reading of drift to be taken without any calculation being needed. Behind the pilot sits the wireless operator, who is provided with the latest pattern of Marconi receiving and transmitting set, which enables him to maintain telephonic and telegraphic communication with ground stations and other aeroplanes over a wide range, besides picking up direction-finding signals when visual navigation is impossible. In front of the pilot is a three-panelled glass screen (with windscreen wipers on side panels), which affords very good visibility in all directions forward and to each side. Behind the pilot's cockpit is a bulkhead in which are lockers (including a spare tyre weighing 150 lbs.), the steward's pantry and emergency supplies. At the back of this bulkhead is the passenger saloon which has accommodation for nine persons, each of whom is provided with an easy chair (which can be extended for sleeping purposes), and a small table. Within reach of each passenger is a rack for light articles, an electric light and a ventilating device which can be controlled so as to regulate the temperature of the air supply. In this



[*By courtesy of "The Aeroplane"*

AN AIR LINER OF THE COMMONWEALTH CLASS
Used between Singapore and Brisbane

[*By courtesy of Imperial Airways*

PART OF THE PROMENADE SALOON
In the Empire Flying-boat under construction for Imperial Airways

[*Face page* 102

connection it is interesting to note that the saloon of the "Astrea" on arrival at Delhi was cool despite a temperature of 110 degrees outside. This is due to the special covering of the body of the machine which ensures insulation against heat as well as sound. The saloon is simply yet tastefully decorated and provides all the comfort of a railway Pullman car. In the front bulkhead of the saloon are a speed indicator, altimeter and clock, so that each passenger can watch the progress of the flight. At the back is a lavatory. The mails and baggage are carried forward in lockers behind and below the pilot's seat.

THE ENGINES

The four double Mongoose radial engines are situated in the leading edge of the wing, two on each side of the fuselage. Petrol is carried in five tanks situated in the centre section and in the wing itself. Engine starting is effected automatically by means of a rather complicated system of injectors and Remy coils. The superchargers come into operation when the throttle levers are advanced beyond a certain point and when fully in use give an extra 150 revolutions per minute to the engines. With the engines turning at 1,800 r.p.m. a cruising speed of about 125 miles per hour is maintained while at full throttle giving 2,200 r.p.m., the machine attains a speed of 147 miles per hour in still air at an altitude of 5,000 feet. An important feature of the Atalanta type of machine from the point of view of reliability is that it will maintain its altitude with any two of its engines out of action. That is to say unless there is a stoppage of petrol, forced landings are contingencies that may be practically ruled out. Its range is normally about 600 miles with full load in still air. The wheel

brakes operate by means of compressed air, and their action sets up a hissing noise similar to the Westinghouse brakes of London tube trains. Owing to the weight of the machine the rudder is operated by a servo-control. This is achieved by means of a small flap on the trailing edge, so that all the pilot does is to move the servo-flap and the wind pressure against the flap operates the rudder itself.

XIX

THE FIRST AIR MAIL FROM LONDON TO RANGOON

BUSINESS engagements kept me fully employed during the time intervening before the arrival of the "Arethusa" piloted by Captain Prendergast, at Dum Dum, but the time at my disposal proved all too short, and the unique opportunity to travel by the first Air Mail from England to Burma was not to be missed, and shortly before daylight with a full load of mails we left the aerodrome amongst a volley of cheers from the crowd of spectators who had, even at this early hour, sufficient interest in what was a truly epoch-making event in the history of aviation, and which no doubt fully paid them for the inconvenience necessary to enable them to be present in time to see the plane loaded up with a heterogeneous collection of letters, newspapers and parcels which in about seven hours' time would be delivered at their destination in Rangoon.

Running swiftly along the ground parallel with the paraffin flares which served as a guide to the pilot in taking off in the darkness, we had soon left Dum Dum far behind us, and as soon as daylight made its appearance we were able to distinguish the tiny villages scattered interminably along the lakes, rivers and streams which for many miles give the appearance of a district which had suffered inundation, with roads few and far between giving

the impression that the chief means of transport must be by boat, and the chief industry fishing. Mile after mile we flew amidst a wilderness of waterways, interspersed at intervals by dense masses of forest, which seemed to flourish even in this desolate region. Then to the northward were to be seen the broad rivers of the Ganges and Meghna converging some five miles south of the town of Naraingunj, and then proceeding a mighty stream through an archipelago of islands until emptying itself into the Bay of Bengal. We were now flying at some 2,000 feet, great clouds scurrying across the sky, driven by a strong wind, and at this stage of our flight we altered our course, and amidst a heavy rain storm we struck out from the land, direct across the sea. In a few minutes all traces of land had disappeared and one might almost imagine we had set out on an attempt to cross the Atlantic ocean, as nothing met our vision but the pattering of the rain against the windows of the cabin, and beneath us at intervals could be discerned the grey waters of the Bay of Bengal. For over an hour we flew against the howling of the wind, and torrents of rain, until it seemed to the passengers we were flying blindly into the waste of waters, and possibly drifting miles out of our course. But when one or two of the passengers were beginning to wonder whether we should ever see land again, a break in the clouds discovered a cluster of houses on a projecting point on the Arakan coast, and we had found our objective as we circled over the little town of Cox's Bazar. Then turning southward we flew parallel to the coast, as the weather cleared, and bright sunshine was a welcome relief to the sombre, uninteresting journey above the Sunderbands of Bengal and the trackless sea. Away to the north was the town

of Chittagong, but not visible, some fifteen miles up the coast.

A long range of hills runs parallel to the Arakan coast, and between the foothills and the sea well-cultivated fields and crops of many varieties testify to the fruitfulness of the soil. Continuing our way southward we sighted the picturesque little town of Akyab, where several steamers were moored alongside the jetty and others at anchor in the harbour. The aerodrome at Akyab is L-shaped and at times landing is a matter of some little difficulty, as in this instance. As we swept downwards, allowing sufficient distance between ourselves and a small army of coolies who were relaying the surface of the landing ground, we were taxi-ing a little too quickly towards a belt of trees which fringed the aerodrome. There was nothing for it, not having sufficient space for pulling up, but to rise again and the engines responded to the throttle as we cleared the trees by a small margin, and soared aloft once more again approaching the landing ground at a lower angle, and this time with plenty of space to spare, and very quickly, as we came to a halt, we were surrounded by an excited crowd of Britishers and Burmese who had motored out to give a rousing reception to the first plane carrying His Majesty's mails from India to Burma. I had brought with me several copies of English and Calcutta newspapers which I distributed to various persons, who thus were able to read that morning's newspapers printed in Calcutta three hours after delivery in Bengal, which meant a saving of time of from three to five days, according to the arrival of the local steamers. It was interesting to see the interest with which this innovation was received, and no doubt the morning Calcutta papers will from now onwards be delivered in Akyab by 10.30 a.m.

Fifty minutes was allowed for refuelling, re-oiling, etc., and this was very well utilized by accepting an invitation to breakfast by one of the officials of the Indian Civil Service at his bungalow, and the time passed far too rapidly, for there was much to discuss of the recent developments in aviation and it was with regret that I said good-bye to my host, as once more the "Arethusa" in a whirl of dust, swept upwards on her last stage from Akyab to Rangoon.

After proceeding a considerable distance down the coast we turned inland, steadily rising in order to attain sufficient height to cross the mountain range which in some parts attained an altitude of some 5,000 feet above sea level, and shortly afterwards we were peering down into the valleys as we swung among the hill tops where could be seen a narrow path which elephants traverse and which is the sole means of transport between the coastal towns and the interior of the country. Leaving the mountain range behind us, we had a superb view of the valley of the Irrawaddy, winding its sinuous course southwards from Mandalay and beyond, and the little town of Prome could be distinctly seen on the left bank of the river, and a feather of steam denoted the Rangoon express scurrying along almost parallel with the stream. We were now gazing ahead to locate our destination—the city of Rangoon—and shortly my attention was directed to a lofty spire glistening in the afternoon sunlight, the noble proportions of the great Shwe Dagon Pagoda, the striking landmark of the capital of Burma, which can be seen for many miles by the traveller approaching the city by road, rail, sea or by air. In order, however, to enable the passengers to have a complete bird's eye view of the city, our pilot continued the flight southward directly over the river, and then turning our

course northwards again we had a glorious view of Rangoon, its beautiful lakes, its racecourse and of course all its public buildings. The outskirts and suburbs of Rangoon share with Penang the most desirable residential places to be found in the East, and the motorist who is a dweller in Burma is fortunate in having some of the most delightful districts to be found East of Suez for his perambulations. The aerodrome at Mingaladoon is some ten miles out of the city, and care is needed in landing, as the aerodrome is none too large, but also on a slope, and there is the possibility of over-running the landing space unless the pilot is accustomed to its peculiarities. As we circled overhead it looked as if half the population of Rangoon had come out to witness our arrival. Hundreds of motor-cars were parked on the borders of the aerodrome, and a great multitude clad in all the colours of the rainbow (and the Burmese dress must indeed be seen in order to be fully appreciated) were gazing upwards watching our descent, and there was no question that the arrival of the first air mails in Rangoon was an event which would long be remembered by its citizens. A perfect landing was the signal for a frenzied rush of hundreds of spectators, who, climbing over the ropes in their anxiety to be first on the spot, were crowding round the "Arethusa," eagerly peering into the windows, inspecting the fuselage and asking a hundred and one questions as to what mails we were carrying? what time we had left Calcutta? how long time spent at Akyab? which made it a matter of some considerable difficulty for the Press photographers to make a picture of this historic landing, which accomplished at last they hurried away on motor cycles to their respective papers, for the news to be cabled all over the civilized world. It was a great day in the history of

Rangoon. We had accomplished the 700 miles from Calcutta to Rangoon, including the stop at Akyab, in a little under seven hours. At 2.30 I had washed and lunched at the Minto Mansions Hotel and an hour later was discussing business with one of my customers in the city.

XX

THE FIRST AIR MAIL FROM RANGOON TO LONDON

THE first Air Mail from Rangoon to England, although naturally not so full of excitement as the first arrival of the Air Mail from London, was not without interest, and a goodly number of notabilities and hundreds of the general public assembled at the aerodrome at Mingaladoon soon after sunrise to watch the departure of the "Athena," piloted by Captain Prendergast, that prince of pilots, who, thirteen months later, crashed to death in Australia when testing out the Quantas aeroplane which was to inaugurate the first Air Mail from England to Australia. Perhaps this may be a suitable occasion, on this bright sunny morning to describe this fine figure of a typical Englishman, in his smart sky-blue uniform chatting with the Postmaster-General of Bengal while the mechanics were trying out the engines of the aeroplane previous to making the return journey from Rangoon to Calcutta. Captain Prendergast stood some six feet in height, a jovial, ruddy countenance no doubt caused by the rush through the air above three continents, a good conversationalist although always somewhat reticent when asked anything about his own share in the development of Imperial Airways; in fact he was modesty itself when his questioner became too inquisitive, and he would turn the conversation to some subject not so personal. I travelled with Captain Prendergast nearly 4,000 miles, and

on several occasions, when probable disaster was apprehended, I have witnessed his sang froid and resourcefulness as he extricated himself from what seemed inevitable disaster. The encounter with the vulture when travelling at an elevation of 6,000 feet between Allahabad and Calcutta will be an incident indelibly engraved on my memory, as, travelling with a following wind at 140 miles an hour, we were suddenly confronted by the swoop of a vulture, travelling at a speed of sixty miles an hour; a collision at a combined velocity of 200 miles an hour was an experience which few men have gone through and still live to tell the tale. Although injured by the broken plating, as the great bird crashed through the nose of the cockpit, disembowelling itself in the process, the steel nerves of this great pilot kept the plane on an even keel as it staggered under the frightful impact. Over the Bay of Bengal, flying blind for an hour, in a land machine, when a forced descent would have spelt death to the crew and passengers, making landings after dark on small aerodromes on which daylight landings needed special care, scaling dizzy mountain heights over the Oman peninsular shrouded in mists, were his daily task and examples of the work that Captain Prendergast carried out over land and sea. In his passing England has lost one of her finest pilots, and Imperial Airways will look far before replacing this great pilot. I am convinced no error of judgment was responsible for his death, some faulty construction or sudden strain must be looked for if the cause of this disaster is to be thoroughly explained. As for me, I have lost a friend, one whose place can never be filled. Honour to his name.

All aboard, we climb the short stairway into the cabin of the "Athena." The skids are removed

from the wheels and amid cheers from the spectators we circle around the aerodrome, and then set a course due west for Calcutta. Once again we watch the windings of the Irrawaddy, with its tributaries watering the paddy fields, and before forty-five minutes have elapsed we are crossing the town of Bassein, eighty-five miles distant from Rangoon. Now we are climbing fast in order to scale the heights of the Arakan Yuma, the range of mountains which stretch for many miles along the coast, then, sighting the coast, we turn due north and shortly afterwards, a further 120 miles on our way, we sight the compact aerodrome of Sandoway, on the banks of a river close to the coast. From here we travel over lagoons, with islands scattered here and there, and head directly over the fairly large island of Ramraa, and later cross a large lagoon studded with islets of all shapes and sizes. Now we are making straight for Akyab, and all travellers by air will recognise its proximity when travelling northwards from Rangoon, by the three Boronga islands lying parallel to each other, due north and south, all approximately of the same length and very narrow, like the prongs of a fork, and over which lies the direct course of the plane which from now henceforth carry the mails between England and Australia. For miles we fly over the channel dividing the two western islands, until a smudge of smoke on the horizon, announces the whereabouts of Akyab, and again we are circling over the town, and a few minutes later are taxiing along the L shaped aerodrome, and delivering the mails, and collecting more for delivery in Calcutta and Europe. Another stop for breakfast and refuelling, and we are again away up the coast and crossing between Oyster Island with its lighthouse, and the broad creek, Mayu, stretching far inland, we travel for a further forty miles, until

the town of Shahpuri looms into view, and then crossing the estuary of the River Nauf, a broad estuary running parallel with the coast for a distance of thirty miles, we arrive at last at the well-known trading post known as Cox's Bazar. This is the turning point where we leave the Arakan coast and turn westward over the north-eastern portion of the Bay of Bengal and ten minutes later we are out of sight of land, at an elevation of about 1,000 feet, making a bee line for the Sunderbands. We run right into the teeth of a blinding rainstorm, and heaven and earth are blotted out as we drive onward with the sea somewhere beneath us and impenetrable rain and mist overhead, until we wonder where we shall emerge from the deluge. But man's ingenuity has overcome these difficulties, the dials on the dashboard of the cockpit give the pilot unerring information, as to our elevation, speed and engine revolutions. So, unperturbed and confident, the pilot is rewarded by a sudden burst of sunshine, and right ahead lie the low-lying land, interspersed with innumerable watercourses, the great delta of the many mouths of the mighty Ganges. We are in India once more, heading at 120 miles an hour for Calcutta, and six minutes before our scheduled time we are gliding gently over the grassy surface of the Dum Dum aerodrome where willing hands remove the mails and merchandise to the Customs shed amongst which was included my letter to the Postmaster-General in England as a memento of the inauguration of the Air Mail service between Burma and England, which was safely delivered with due appreciation from the Minister a week later.